



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/668,798

09/23/2003

Soon Ho Lee

51876P395

4099

8791

7590

01/28/2005

BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER

HUNNINGS, TRAVIS R

ART UNIT

PAPER NUMBER

2632

DATE MAILED: 01/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

VB

Office Action Summary

Application No.

10/668,798

Applicant(s)

LEE, SOON HO

Examiner

Travis R Hunnings

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the text on page 2, line 23 should be changed from "bf e" to "be".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olandesi (US Patent 5,739,774) in view of Schmier et al. (Schmier; US Patent 6,006,159).

Regarding claim 1, Olandesi discloses *Mass Transit Monitoring And Control System* that has the following claimed subject matters:

The claimed step of collecting traffic information including a on-board device ID, a roadside base station ID and a pass time from the roadside base station is met by the stop units collecting and disseminating information related to behicle arrivals at the respective passenger stops (col2 29-56, col4 24-32, col8 56-59 and col10 35-51);

The claimed step of computing an average traffic speed of each section based on the collected traffic information and computing time required for arriving to each bus stop from a roadside base station based on the computed average traffic speed of each section is met by the computing means calculating the timeliness of the system and sending information to the vehicle units, through the stop units, that includes the arrival time of vehicles at respective stops (col2 29-56 and col4 24-32);

The claimed step of at the bus information server, transmitting the computed time required for arriving to each bus stop from the roadside base station is met by the computing means calculating the timeliness of the system and sending that information to the stop units to send to the vehicle units (col2 24-32);

However, Olandesi is silent on the claimed step of displaying the expected arrival time of each bus station and time required for arriving at each bus stop through a display device to passengers of a bus by using the roadside base station and on-board device. Schmier discloses *Public Transit Vehicle Arrival Information System* that teaches a display device in a bus that displays the estimated time of arrival at bus stops on the bus route to passengers of the bus (col11 36-55). The device of Olandesi only displays information for the upcoming (next) bus stop. Modifying the device of Olandesi to show not only the expected arrival time at the next bus stop but further stops along the bus route would give passengers a better idea of when they can expect to arrive at their destination. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Olandesi according to the

Art Unit: 2632

teachings of Schmier to display the expected arrival time of the bus at each stop along it's route.

Regarding claim 2, Olandesi discloses all of the claimed limitations except for the claimed step of storing the information that is processed in respective information tables. Schmier teaches the central processor storing the computed information in the form of transit data tables (col4 21-60). Storing the information computed by the computing means of Olandesi in data tables would be easier because it would be in a standardized format that can be easily read by other systems such as the vehicle and stop units. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Olandesi according to the teachings of Schmier to store the computed information in data tables.

Regarding claim 3, Olandesi and Schmier disclose all of the claimed limitations. The claimed step of the bus information server transmitting the table of the requirement time_DB and an on-board device group ID to the corresponding roadside base station is met by the central computing means being in communication with the stop units and providing them with information regarding the timeliness of the system so that that information can then be conveyed to the vehicle units as they pass by the stop units (col2 29-56).

Regarding claim 4, Olandesi and Schmier disclose all of the claimed limitations.

The claimed method wherein the bus information server, the roadside base station and the on-board device determine a bus course based on the on-board device group ID is met by the information that is being exchanged between the stop units and vehicle including the vehicle identification, a predefined stop number assigned to each passenger stop and route numbers (col4 24-32, col8 56-59 and col10 35-51).

Regarding claim 5, Olandesi and Schmier disclose all of the claimed limitations.

The claimed method wherein the bus stop is a major bus stop is inherent in the device disclosed by Olandesi and Schmier as they do not discriminate between major and non-major bus stops in the transit systems that are serviced.

Regarding claim 6, Olandesi discloses the following claimed subject matters:

The claimed step of at the on-board device, transmitting on-board device ID to a roadside base station through a dedicated short range communication protocol is met by the vehicle unit transmitting the vehicle ID to the stop unit when it is within 100 meters of the stop unit through a communication interface (col2 29-56, col3 54-67 and col10 35-51);

However Olandesi is silent on the claimed steps of at the on-board device, receiving an arrival time of each bus stop stored in the roadside base station according to the on-board ID, wherein the arrival time of each bus stop is computed at the bus information server according to the on-board group ID and then announcing the arrival

Art Unit: 2632

time of each bus stop through an output device of the on-board device. Schmier teaches computing the estimated arrival time of the bus at all stops along its routes and a display device in a bus that displays the estimated time of arrival at bus stops on the bus route to passengers of the bus (col11 36-55). Olandesi computes the arrival time of the bus at each stop but only displays the arrival time at the next bus stop on the route. Modifying the device of Olandesi to show not only the expected arrival time at the next bus stop but further stops along the bus route would give passengers a better idea of when they can expect to arrive at their destination. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Olandesi according to the teachings of Schmier to display the expected arrival time of the bus at each stop along it's route.

Regarding claim 7, the claim is interpreted and rejected as claim 4 stated above.

Regarding claim 8, the claim is interpreted and rejected as claim 5 stated above.

Regarding claim 9, the claim is interpreted and rejected as claim 1 stated above.

Regarding claim 10, the claim is interpreted and rejected as claim 6 stated above.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Borman et al. *Automatic Vehicle Monitoring, Identification...* US Patent 3,644,883

Jones, *Advance Notification System and Method...* US Patent 5,623,260

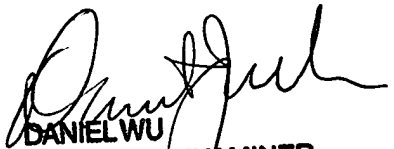
O'Connor et al. *Communication System*, US Patent 6,803,862

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis R Hunnings whose telephone number is (571) 272-3118. The examiner can normally be reached on 8:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRH


DANIEL WU
SUPERVISORY PATENT EXAMINER
1/24/05